U. S. EPA Superfund Program

Proposed Remedial Action Plan

Shaffer Equipment / Arbuckle Creek Area Superfund Site
Operable Unit 1
Minden, West Virginia

EPA ANNOUNCES PROPOSED PLAN **March 2023**

Dates to Remember

March 13, 2023 to
April 12, 2023
Public Comment Period on EPA's Proposed Plan

Public Meeting
March 21, 2023
6:00 pm to 8:00 pm
The Minden Community Center/New Beginning Apostolic Church
179 McKinney Road
Minden, WV 25901

The United States Environmental Protection Agency (EPA) is issuing this Proposed Remedial Action Plan (Proposed Plan) to present EPA's Preferred Alternative for an Early Action at the Shaffer Equipment / Arbuckle Creek Area Superfund Site (the Site). The purpose of this Proposed Plan is to address a source of contamination at the area of the Site referred to as the former Shaffer Equipment Company (SEC) property. Early actions include non-time-critical removal actions and, as in this case, early remedial actions (either interim or final) selected before completion of a Remedial Investigation (RI) and Feasibility Study (FS) for a given operable unit. Contaminated soil at the SEC property is a potential source of contamination due to the repeated, and likely future, flooding of Arbuckle Creek, potentially causing releases of soil source material migrating to the downstream wetlands and residential properties. EPA is the lead agency for the Site and the West Virginia Department of Environmental Protection (WVDEP) is the support agency. This Proposed Plan summarizes information from the ongoing RI for the Site, which includes the December 2020 Phase 1 Remedial Activities Data Summary Technical Memorandum and the August 2022 Shaffer Equipment Company Property Human Health Risk Assessment (HHRA), and the January 2023 Focused Feasibility Study (FFS) Report. The aforementioned documents are contained in the Administrative Record for the Site.

The Site is located in Minden, Fayette County, West Virginia. The SEC built electrical substations for the coal mining industry from approximately 1970 until 1983. Mismanagement of electrical transformers by the SEC resulted in the release of oils containing polychlorinated biphenyls (PCBs) to the environment. The Site consists of the SEC property, contaminated sediments within Arbuckle Creek, and other areas where site-related contamination may be located. The National Superfund Database Identification Number is WVD988768909.

The Site includes several project areas, identified as areas of potential concern, that have been investigated. The location of the Site is shown on Figure 1, and the areas of potential concern are shown on Figure 2. This Proposed Plan only addresses the soil at the SEC property, which is designated as Operable Unit 1 at the Site. The SEC property is located in the approximate area

where the SEC facility operated and where EPA has historically performed Removal Actions as shown on Figure 3. The Remedial Investigation and Feasibility Study for the Site will be completed, and the remaining project areas will be evaluated in a future cleanup plan.

Preferred Alternative

EPA's Preferred Alternative for the SEC property is Alternative 3, which is presented in detail in Section VI of this Proposed Plan and includes the following components:

1. Removal of the impervious cap/barrier

2. Excavation of PCB-contaminated soil above performance standards

3. Disposal of excavated PCB-contaminated soil and the impervious cap/barrier at an approved offsite disposal facility

4. Backfill with clean fill, as necessary

EPA has determined that the Preferred Alternative will be effective in addressing a source of contamination that, without early attention, could migrate to impact currently uncontaminated areas. This Proposed Plan is also consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.430(a)(1)(ii)(A), about taking an early action when appropriate.

The purpose of this Proposed Plan is to solicit public comments on the proposed remedy for the SEC property soil. This Proposed Plan is being issued as part of EPA's public participation requirements under Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, commonly known as the Superfund law) of 1980, 42 U.S.C. § 9617, as amended, and Section 430(f)(2) of the NCP, 40 C.F.R. § 300.430(f)(2).

Comments should be submitted in writing or emailed to:

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After the close of the public comment period and consideration of the public's comments, EPA will announce its selected remedy in a Record of Decision (ROD). The public's comments and EPA's responses to those comments will be presented in the Responsiveness Summary of the ROD. EPA encourages the public to review the documents that make up the Administrative Record to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted at the Site.

The Administrative Record for the Site can be accessed at https://semspub.epa.gov/src/collection/03/AR67298, or at the following locations:

Oak Hill Public Library
611 Main Street
Oak Hill, WV 25901
Hours: Call (304) 469-9890

EPA Administrative Records Room
Administrative Records Coordinator
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103
Phone: (215) 814-2469
Hours: Monday - Friday 8:30 am to 4:00 pm
By appointment only

This Proposed Plan includes the following sections:

I. **Site Background** – Provides facts about the Site which provide the context for the subsequent sections of the Proposed Plan
II. **Site Characteristics** – Describes the nature and extent of contamination at the Site
III. **Scope and Role of This Action** – Describes how the response action fits into the overall Site strategy
IV. **Summary of Site Risks** – Summarizes the results of the baseline risk assessment, and the land use and groundwater use assumptions used in the analysis
V. **Remedial Action Objectives** – Describes what the proposed Site cleanup is expected to accomplish
VI. **Summary of Remedial Alternatives** – Describes the options for attaining the identified remedial action objectives
VII. **Evaluation of Alternatives** – Explains the rationale for selecting the Preferred Alternative
VIII. **EPA's Preferred Alternative** – Describes the Preferred Alternative and affirms that it is expected to fulfill statutory and regulatory requirements
IX. **Community Participation** – Provides information on how the public can provide input to the remedy selection process

I. SITE BACKGROUND

Site Location and Description

The Site is located in Minden, Fayette County, West Virginia. The SEC built electrical substations for the coal mining industry from approximately 1970 until 1983. Mismanagement of electrical transformers by the SEC resulted in the release of PCB-containing oils to the environment. The SEC conducted operations at a facility located near the western end of Minden. The SEC property is approximately five acres and is located within the floodplain of Arbuckle Creek, which borders the property to the north. There were various structures at the property that supported SEC operations; however, all of these structures have been demolished and the transformers have been removed. Presently, much of the SEC property is overgrown with woody vegetation and an area covered with an engineered impervious cap/barrier. Additionally, a metal sheet piling wall is located along the northern edge of the property, bordering Arbuckle Creek, to prevent erosion of the stream bank. The SEC property is located in a valley with a steep hillside on both sides.

In addition to the SEC property, the Site includes several areas of potential concern that have been investigated as part of the initial investigation as well as the ongoing Remedial Investigation. These areas of potential concern are being evaluated and will be discussed in a future final cleanup plan but are not part of this Early Action.

- Possible Transformer Storage Area (adjacent to the east of the SEC property)
- Britt Bath House Area
- Berwind Green Hill Mine Dump Area (aka Needles Eye)
- Rocklick Road
- NR&P Supply House (aka Powerhouse)
- Residential Properties (located along Arbuckle Creek)
- Arbuckle Creek Floodplain
- Arbuckle Creek and associated wetland areas within the limits of the SEC property and to its confluence with the New River
- New River
- Mines

Previous Environmental Investigations at the SEC Property

In September of 1984, the West Virginia Department of Natural Resources (WVDNR), which is now WVDEP, inspected the SEC property. EPA initially inspected the Site in October of 1984. During these initial inspections hundreds of transformers and capacitors were observed across the SEC property. Several of the transformers and capacitors were broken open with oil spillage evident on the ground surface. Samples were collected during these inspections and the analytical results revealed very high (up to 260,000 milligrams per kilogram (mg/kg)) levels of PCBs. Additional sampling was completed between November 1984 and February 1985 to better characterize the impacts.

Between December 1984 and December 1987, EPA conducted a Removal Action in response to the high levels for PCBs and the evidence of offsite contamination migration. The Removal Action included the removal and disposal of capacitors, transformers, drummed solids and

liquids, and approximately 4,735 tons of PCB-contaminated soil. The western end of the property was excavated to a depth of six inches while an area just west of the SEC building was excavated to a depth of two feet. The Removal Action included an attempt to treat the 4,735 tons of excavated soil onsite via solvent extraction, which proved unsuccessful.

EPA returned to Minden in 1990 and conducted sampling at the SEC property and the surrounding area. Surface soil, subsurface soil, surface water, sediment, and the public water supply were sampled. The sample analyses indicated that the public water supply was not impacted. Due to elevated PCB concentrations at the SEC property, another Removal Action was conducted between November 1990 and January 1991. This Removal Action consisted of the excavation of six areas around the SEC building. All excavated soil was disposed of offsite. All excavated areas were backfilled with from an area south of the SEC property.

In 1993, additional soil sampling was performed by EPA with split sampling performed by the property owner and WVDEP. The highest PCB result from this sampling event was over 1,200 mg/kg.

Following a fire at the SEC building, EPA performed a third Removal Action from 2000 to 2001 due to PCBs remaining in the soil at levels as high as 1,200 mg/kg at the SEC property. This Removal Action consisted of the installation of an impervious cap/barrier over PCB contamination and the foundation of the SEC building. The impervious cap/barrier covers approximately one acre. The impervious cap is an 18-inch compacted low permeability clay layer overlaid with 40-millimeter thick, high-density polyethylene (HDPE) liner. On top of the impervious layer is 12 inches of clean soil then 6 inches of topsoil. The impervious cap includes a sheet pile cutoff wall along Arbuckle Creek to prevent erosion of the creek bank. There are also surface diversions and drainage ditches to direct stormwater away from the impervious cap/barrier. Four monitoring wells were installed in the capped area.

Due to community concerns of potential migration of contamination from the SEC property, EPA returned in 2017 to perform additional sampling at the SEC property and the surrounding areas. The Site was listed on the National Priorities List (NPL) in May 2019.

Sampling in 2017 identified elevated PCBs as high as 54 mg/kg in the adjacent area south of the capped area. A fourth Removal Action was conducted in this area from October 2019 to February 2020 to excavate approximately 1,100 tons of PCB-contaminated soil. The excavated soil was disposed offsite at disposal facilities approved to receive such waste material. During this Removal Action maintenance activities were also performed on a section of the impervious cap/barrier and drainage ditch.

II. SITE CHARACTERISTICS

Physical Setting

Minden is situated in the Appalachian Plateau Physiographic Province. Topographically, the Appalachian Plateau Physiographic Province is characterized by a series of uplifted, dissected plateaus. The major tributaries have eroded broad, deep, steep-sided valleys; local relief along

the valleys may exceed 1,000 feet. Minden is located within one of these valleys with a localized relief of approximately 400 feet.

In the vicinity of Minden, West Virginia, there are several coal seams that contained economically viable thicknesses of coal for mining. These seams were mined as early as the late 1800s and continued to be mined until at least the late 1960s. Shallow coal seams were mined by stripping the land to reach the coal, but most mining occurred through the use of underground mining using room and pillar mining methods. A closed abandoned mine entrance is located to the southeast of the SEC property.

The SEC property is located within Arbuckle Creek's floodplain (Figure 4). The floodplain is a Federal Emergency Management Agency designated Zone A Flood Hazard Area, indicating that the area is subject to inundation by the 1-percent-annual-chance flood event (100-year floodplain). Recent flooding events have occurred in Minden in June 2016, June 2017, June 2020, and July 2022. A July 2001 flood engulfed the town in several feet of water.

Site Geology

Overburden Composition

The area around Arbuckle Creek is mostly underlain by Dekalb and Gilpin, very stony soils. The Dekalb Series consists of moderately deep, well-drained soils found on ridge tops, hillsides, and mountainsides and formed in acid material weathered from sandstone. The Gilpin Series consists of moderately deep, well-drained soils found on rolling shale ridges and mountainsides and formed in acid material weathered from sandstone, siltstone, and shale.

At the SEC property there are areas at the surface covered with a few feet of fill material consisting of brick, "red dog" (combustion product of coal waste), gravel, coal, silty sand, and occasional construction and trash debris. Below the fill material is silty sand to sandy silt with gravel alluvial material of Arbuckle Creek.

Bedrock Composition

Bedrock is approximately 6 to 12 feet below ground surface. The bedrock elevations are generally deeper closer to Arbuckle Creek and deeper to the south. The SEC property and most of the surrounding area along Arbuckle Creek are underlain by the Pennsylvanian New River Formation (Pottsville Group). The New River Formation ranges in stratigraphic thickness from 0 to 730 feet in the Fayette County area and consists predominantly of sandstone, with some shale, siltstone, and coal. Minor amounts of conglomeratic sandstone may be present.

Hydrogeology

Groundwater is encountered in the overburden and bedrock. Groundwater in the overburden was encountered at approximately 8 feet below ground surface and flows parallel to the creek towards the northeast at the SEC property, most likely a result of the sheet piling wall constructed between contaminated soil and Arbuckle Creek. Groundwater in the bedrock appears to flow towards the east/southeast but there is some uncertainty to the different screened depths of the bedrock wells and the influence of past underground mining in the area.

Nature and Extent of SEC Property Contamination

The RI sampling for the Site started in November 2019. The work has been conducted in phases (Phase 1 and Phase 2). During the Phase 1 activities at the SEC property, 22 soil borings were advanced with three soil samples collected from each soil boring. The soil borings were advanced on the three sides of the impervious cap/barrier. Soil borings were not able to be advanced between the impervious cap/barrier and Arbuckle Creek, nor through the impervious cap/barrier itself. The soil borings were also advanced in areas where past excavation activities were completed. During the Phase 2 activities, nine additional soil borings were advanced to delineate the PCB impacts identified from Phase 1. Three soil samples were collected from each soil boring.

All soil samples were analyzed for PCB congeners while a subset of the Phase 1 soil samples also was analyzed for PCB Aroclors. PCBs are a group of man-made organic chemicals consisting of carbon, hydrogen, and chlorine atoms. A PCB congener is any single, unique chemical compound in the PCB category. There are a total of 209 unique PCB congeners. Aroclor is a PCB mixture and one of the most commonly known trade names for PCB mixtures. There are many types of Aroclors, and each has a distinguishing suffix that indicates the amount of chlorine in the mixture.

Total Aroclor concentrations ranged from non-detect to 24 mg/kg and total PCB congener concentrations ranged from 0.000002 mg/kg to 49.7 mg/kg. While no soil samples were collected under the impervious cap/barrier during the RI sampling, a review of historical results indicate that the highest PCB result found is 1,208.8 mg/kg below the cap.

In addition to the PCB analyses, all soil samples were also analyzed for semi-volatile organic compounds (SVOCs), pesticides, dioxin/furans, metals, and cyanide, while the samples collected at depth during Phase 1 were also analyzed for volatile organic compounds (VOCs). The analytical results were compared to project screening levels (PSLs). These PSLs were either from the EPA regional screening levels or the West Virginia Residential De Minimis Standards under the WVDEP Voluntary Remediation Program. The PSLs are not cleanup standards but were used to help identify contaminants that may require additional evaluation.

The VOC results were not detected in any of the samples above PSLs. Of the 90 samples analyzed for SVOCs, 25 samples had at least one SVOC above a PSL. Only one of 90 samples analyzed for pesticides had a concentration above the PSLs. Hexachlorodibenzo-p-dioxin was detected above a PSL in two samples. No other dioxins or furans were detected above PSLs. Aluminum, antimony, arsenic, cadmium, chromium, cobalt, iron, lead, manganese, and thallium were the inorganics (metals) detected above PSLs. Cyanide was not detected above a PSL in any of the samples.

Current and Future Potential Land Use

Land use in the vicinity of the SEC property is primarily residential. The SEC property covers several land parcels. Despite the historical use by the SEC, the SEC property parcels as well as the surrounding parcels are zoned as either land conservation or residential, according to the City of Oak Hill website. Due to frequent flooding of Arbuckle Creek and the location of the SEC

property within the mapped floodplain, development and future use of the SEC property are unlikely.

National Historical Preservation Act

To comply with the National Historic Preservation Act for this Proposed Plan, EPA has consulted with the West Virginia Department of Arts, Culture and History's State Historic Preservation Office to determine potential project effects on cultural resources. There is one previously recorded archaeological resource located near the SEC property. Due to all SEC property previously being disturbed and a portion capped, no additional consultation is required for the recorded archaeological resource.

Tribal Interest

There are no federally recognized tribes in West Virginia. Additionally, no federally recognized tribes have indicated to EPA Region III an interest in the Shaffer Equipment / Arbuckle Creek Area Superfund Site.

III. SCOPE AND ROLE OF THIS ACTION

This Proposed Plan consists of a proposed Early Action for the soils at the SEC property, which includes the previously capped material along with the adjacent impacted soils. The purpose of this Proposed Plan is to address a potential source of contamination at the SEC property. The SEC property is a potential source of contamination due to the repeated, and likely future, flooding of Arbuckle Creek potentially causing releases of soil source material migrating to the downstream wetlands and residential properties. Following the completion of the Remedial Investigation / Feasibility Study, EPA will seek comments on an additional proposed cleanup plan for any remaining contamination at the Site. The Preferred Alternative proposed herein will prevent current and potential future exposure to contaminated soil through the removal and offsite disposal of PCB-contaminated soil.

IV. SUMMARY OF SITE RISKS

During the RI, a HHRA was conducted to determine the current and potential future effects of contaminated media on human health in the absence of any cleanup actions at the Site. Below is the risk summary for the SEC property.

Human Health Risk Assessment

The HHRA was conducted to characterize and quantify the current and potential future human health risks that would occur if no remedial action were taken to address contaminated media at the Site. The HHRA identifies the potential exposure pathways in which people may be exposed to Site contaminants, the toxicity of the contaminants present, and the potential for carcinogenic and non-carcinogenic effects to occur from exposure to the contaminants. EPA has set a target risk range of 10^{-4} to 10^{-6} for a lifetime excess carcinogenic risk. An excess lifetime cancer risk means the acceptable risk to an individual of developing cancer from exposure over a lifetime of carcinogens at a site is between 10,000 to 1 (10^{-4}) and 1,000,000 to 1 (10^{-6}). For non-carcinogenic contaminants, EPA sets a target Hazard Index (HI) of no greater than 1. The hazard quotient (HQ) measures the risk posed by each exposure pathway (i.e., inhalation, ingestion, and

dermal contact) for a single non-carcinogenic contaminant at a site, while the HI is the sum of all of the HQ values for the respective receptor (e.g., child or adult resident).

Receptor populations evaluated in the HHRA included future adult/child residents, current/future recreators, current/future trespassers, potential future industrial workers, and potential future construction workers. Carcinogenic risks and non-carcinogenic hazards were found to be in exceedance of regulatory thresholds (carcinogenic risk of 10^{-4}, non-carcinogenic HI of 1) for the following potential future receptors:

- Potential future exposure by child resident to chemicals of concern (COCs) in surface soil (0.0 – 0.5 feet) (ingestion and dermal contact):
    - Non-carcinogenic HI of 2.
- Potential future exposure by resident to COCs in total soil (0.0 – 8.8 feet) (ingestion, dermal contact, and inhalation):
    - Carcinogenic risk of 2×10^{-4}.

The COCs identified in the HHRA include PCBs, dioxin, benzo(a)pyrene, arsenic, chromium, and cobalt. As part of the FFS a background analysis determined that arsenic, chromium, and cobalt in total soils at the SEC property were attributable to background conditions and not a release at the Site. Benzo(a)pyrene and dioxins were identified as COCs in the HHRA, but their contributions to the cumulative risk were minimal and addressing the cancer risk presented by PCBs in soil at the SEC property is expected to reduce the overall risks at the Site to acceptable levels.

Ecological Risk Assessment

An ecological risk assessment is currently in-progress for the entire Shaffer Equipment/Arbuckle Creek Area Superfund Site as part of RI activities. Ecological risks will be addressed in a future FS and considered in a future cleanup plan.

Risk Assessment Summary

In summary, the HHRA for the SEC property demonstrated that Site conditions pose unacceptable potential risks to human health and that remedial actions are necessary to reduce the risks to below EPA's acceptable levels. Therefore, EPA has determined that response actions are necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment. In addition, EPA and WVDEP remain concerned about the location of the SEC property in a Zone A Flood Hazard Area and the likelihood of potential releases of PCBs to downstream wetlands and residential properties during future flood events.

Principal Threat Waste

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a Site wherever practicable (40 C.F.R. § 300.430(a)(1)(iii)(A)). The principal threat concept is applied to the characterization of source materials at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination, for example, to groundwater. Principal

threat wastes are those source materials considered to be highly toxic or highly mobile, which would present a significant risk to human health or the environment should exposure occur.

Based on the 1990 EPA *Guidance on Remedial Actions for Superfund Sites with PCB Contamination*, PCB-contaminated soil is generally considered a principal threat waste at concentrations exceeding 100 mg/kg (residential) or 500 mg/kg (industrial land use). Treatment of principal threat waste to the maximum extent practicable was therefore considered during this remedy selection process. The 100 mg/kg PCB value was used during this remedy selection process due to the close proximity of the residential properties.

During the RI, PCBs have not been encountered in soil at the SEC property at concentrations above 100 mg/kg. However, a review of historical sampling data indicated that concentrations above 100 mg/kg exist under the impervious cap/barrier.

V. REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered (TBC) guidance, and site-specific risk-based levels. To protect human health and the environment from current and potential future risk, the RAOs for the SEC property are as follows:

1. Prevent migration of contaminants from soil source materials to groundwater and surface water/sediments within Arbuckle Creek and downstream wetlands.

2. Prevent direct exposure (inhalation, dermal contact, or ingestion) to soil exceeding EPA's proposed cleanup level.

The action presented in this Proposed Plan is expected to reduce the potential for future excess carcinogenic risk from exposure to contaminated soil at the SEC property to within EPA's acceptable risk range of 10^{-4} to 10^{-6} and reduce excess non-carcinogenic risk to a HI of less than or equal to 1.

Performance Standards
The preliminary cleanup level is 1 mg/kg of total PCBs, which is a risk-based cleanup level resulting in a cancer risk of 4.4×10^{-6}. EPA is proposing to remove contaminated material until concentrations of total PCBs are statistically less than the cleanup level.

VI. SUMMARY OF REMEDIAL ALTERNATIVES

The following Remedial Alternatives were evaluated to address the soil at the SEC property:

- Alternative 1: No Action

- Alternative 2: Impervious Cap/Barrier Area Improvements

- Alternative 3: Impervious Cap/Barrier Area Excavation

Alternative 1: No Action
Estimated Capital Costs: $0
Estimated Annual Operation and Maintenance (O&M Cost): $0
Estimated Present Worth Cost: $0
Estimated Construction Timeframe: Not applicable

The NCP requires that a "no action" alternative be developed and retained as a baseline scenario to which the other alternatives may be compared. Under this "no action" alternative, EPA assumes that no additional remedial activities will be conducted at the SEC property, providing an environmental baseline against which impacts of the various remedial alternatives can be compared. With this alternative, there would be no change in the concentrations of COCs in the media because no treatment, containment, or removal of source material would occur.

Alternative 2: Impervious Cap/Barrier Area Improvements
Estimated Capital Cost: $1,911,798
Estimated Annual O&M Cost: $175,770
Estimated Present Worth Cost: $4,085,812
Estimated Construction Timeframe: 4 months

This alternative would include making repairs/improvements to the existing impervious cap/barrier and extending the cap to contain total PCB concentrations greater than 1 mg/kg. The existing surface water controls (polyvinyl chloride [PVC] piping network and drainage ditches) would be thoroughly inspected and repaired as needed. Areas requiring new cap construction (~2 acres) would be addressed in the same manner as the existing cap. An 18-inch compacted low permeability clay layer would be overlaid with 40-mil HDPE liner, followed by 12 inches of clean backfill material and a 6-inch layer of topsoil. Revegetation of any disturbed areas of the cap would be performed. New surface water controls would be installed as needed. Vegetation clearing to construct the new cap area would be needed in select areas.

Any loss of wetlands/floodplain area based on impervious cap/barrier area improvements must be mitigated during implementation of Alternative 2. Impacts to the creek, riparian corridor, and all associated wetlands that may be adversely impacted by the alternative must be considered and controlled/mitigated during remedy and following remedy implementation. There are no onsite wetlands or unique habitats that would be disturbed by implementing Alternative 2. However, upgradient disturbance within the floodplain may have unintended negative impacts on the downstream wetland areas.

The engineered impervious cap/barrier and PCB-remediation waste under it is considered a Toxic Substances Control Act (TSCA) chemical waste landfill. The requirements for a TSCA chemical landfill are summarized in 40 C.F.R. § 761.75 and include landfill design specifications and regulatory approval processes.

To comply with ARARs, and because PCB concentrations in soil under the cap are known to be over 100 mg/kg and located within the 100-year floodplain, additional enhancements to the cap

would be required to ensure migration potential is mitigated. There are two reasons for this. First, as currently situated, the principal threat waste does not sit at least 50 feet above the historical high groundwater table as required by 40 C.F.R. § 761.75(b)(3). Second, while there are diversion dikes present, they do not comply with 40 C.F.R. § 761.75(b)(4) because they are not around the entire perimeter of the capped area of the site with a minimum height equal to two feet above the 100-year floodwater elevation. Therefore, the waste could not remain in place without EPA making the determination to waive a TSCA permit approval requirement of 40 C.F.R. § 761.75(b), in accordance with 40 C.F.R. § 761.75(c)(4), based on the conclusion that failure of the landfill to comport with the requirement waived would not lead to an unreasonable risk to human health and the environment.

Due to the risk of flooding within the SEC property, precautions would need to be taken to mitigate the risk that PCB-contaminated soil will be released during excavation activities and potentially transported downstream within the creek and adjacent floodplains.

Because contamination would be left in place at the SEC property above levels posing unacceptable human health exposure risks and to protect the impervious cap/barrier area, institutional controls (ICs) would be required to prohibit disturbance of the impervious cap/barrier area.

To prevent trespassers from damaging the impervious cap/barrier, engineering controls such as a fence with signage would be constructed along the SEC property boundary.

Periodic O&M would be required for the impervious cap/barrier and ICs established for the SEC property into perpetuity (note: 30 years will be used as basis for present worth cost analysis only). O&M activities would consist of inspections performed on an annual basis and following significant storm events that may occur. Repairs would be performed as needed based on inspection results. Long-term monitoring (LTM) would include groundwater sampling using the existing overburden well network and surface water sampling of Arbuckle Creek and associated downstream wetlands. Reviews of ICs would be performed on an annual basis. Annual reporting during LTM activities would be required.

Periodic reviews to determine if the clean-up remains protective at a frequency of no less than every five years (i.e., Five-Year Reviews) would also be required.

Alternative 3: Impervious Cap/Barrier Area Excavation
Estimated Capital Cost: $15,559,624
Estimated Annual O&M Cost: $0
Estimated Present Worth Cost: $15,559,624
Estimated Construction Timeframe: 1 year

This alternative would constitute a complete removal of all PCB-contaminated soil currently contained below the impervious cap/barrier and replacement with clean backfill followed by restoration activities. Additionally, soil with PCBs greater than 1 mg/kg would be excavated outside of the cap within the SEC property. Based on sample results, the depth of excavation outside of the footprint of the impervious cap/barrier would extend to approximately 4 feet below

ground surface. Confirmation sampling would be required to verify that remaining PCB concentrations are statistically less than 1 mg/kg. Excavated material would be transported offsite for disposal. This alternative also includes the removal of the sheet pile wall and the foundation of the SEC building. During excavation and material handling activities, both perimeter and onsite air monitoring would be required.

Based on the area of the existing impervious cap/barrier, the areas of elevated PCBs detected around the cap, and the assumed excavation depths, it is estimated that 38,900 tons[1] of contaminated material would require removal. Because of when the releases at the SEC property occurred, the PCB-contaminated material is defined as PCB remediation waste under the TSCA. Based on prior removal actions within the SEC property and known concentrations of PCBs remaining under the impervious cap/barriers, it is assumed that approximately 57% of excavated material would have PCB concentrations greater than 50 mg/kg. The PCB remediation waste with 50 mg/kg and greater would be disposed of in a TSCA approved landfill, TSCA approved incinerator, or a Resource Conservation and Recovery Act (RCRA) Subtitle C landfill permitted to accept 50 mg/kg and greater PCB waste. The PCB remediation waste with greater than 1 mg/kg but less than 50 mg/kg PCBs would be required, at a minimum, to be disposed of in a RCRA Subtitle D landfill. Treatment of the principal threat waste could potentially be required. Possible treatment would occur at the disposal facility and would be contingent on the results of the waste characterization samples.

Because the depth to groundwater in the overburden is approximately eight feet below ground surface, dewatering would be required during excavation activities. Approximately 55,000 gallons of groundwater is estimated to be collected during excavation dewatering based on the 2019 removal action. Based on recent RI activities and prior removal actions that generated investigation-derived waste within the SEC property, it is anticipated that water generated during excavation would be non-hazardous/non-TSCA waste, which would be transported offsite for disposal. Alternatively, water generated through excavation dewatering could be treated onsite prior to discharge to a local wastewater treatment plant. It is unlikely that water generated could be discharged directly to Arbuckle Creek and be in compliance with the substantive requirements of the Clean Water Act for effluent standards and the prevention of degradation of surface water. Pre-remedial design studies may be necessary to evaluate the viability of onsite treatment and to perform a cost-benefit analysis for onsite treatment versus offsite disposal.

During implementation, short-term groundwater monitoring would be performed to assess the effects of removal of the PCB remediation waste on groundwater quality.

Due to the risk of flooding within the SEC property, precautions would need to be taken to mitigate the risk that PCB-contaminated soil would be released during excavation activities and potentially transported downstream within the creek and adjacent floodplains.

[1] The cap area is estimated to be approximately 1 acre requiring excavation to a depth of 10.5 feet (496,461 cubic feet). The area outside the cap is estimated to be approximately 2 acres requiring excavation to a depth of 4 feet (356,696 cubic feet). Assuming a bulking factor of 20% post-excavation and a density of 76 pounds per cubic foot, a total of approximately 38,900 tons of contaminated soil would require excavation and offsite disposal.

Because the excavated material would be permanently removed from the SEC property, no future remedial actions would be anticipated for this operable unit, nor land use restrictions required if this alternative is selected as the remedy. Thus, no ICs or long-term O&M would be required. Five-Year Reviews would also not be required since no hazardous substances, pollutants, or contaminants would remain.

VII. EVALUATION OF ALTERNATIVES

The remedial alternatives summarized above are compared to each other using the nine criteria set forth in 40 C.F.R. § 300.430(e)(9)(iii). This section of the Proposed Plan explains the relative performance of each alternative against the evaluation criteria, noting how each compares to the other options under consideration.

Evaluation Criteria for Superfund Remedial Alternatives
Threshold criteria: Must be satisfied in order for a remedy to be eligible for selection.
1. Overall Protection of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through ICs, engineering controls, or treatment.
2. Compliance with ARARs evaluates whether the alternative will meet all applicable or relevant and appropriate requirements (ARARs) of Federal and State environmental statutes, regulations, and other requirements that pertain to the site, and/or justifies a waiver.
Primary balancing criteria: Used to weigh major tradeoffs between remedial alternatives.
3. Long-term Effectiveness and Permanence considers the expected residual risk and the ability of an alternative to maintain protection of human health and the environment over time.
4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates the anticipated performance of an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
5. Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during the construction and implementation period, until the cleanup goals are achieved.
6. Implementability considers the technical and administrative feasibility of implementing an alternative, including the availability of goods and services needed to implement a particular option.
7. Cost includes estimated capital and annual operations and maintenance costs; compared as present worth cost.
Modifying criteria: Considered by EPA after public comment is received on the Proposed Plan.
8. State/ Support Agency Acceptance addresses whether the State concurs or has comments on the preferred alternative, as described in the Proposed Plan.
9. Community Acceptance considers whether the local community agrees with EPA's analysis of the preferred alternative, as described in the Proposed Plan.

Detailed Analysis of Proposed Remedial Alternatives

1. Overall Protection of Human Health and the Environment

A no action alternative (Alternative 1) must be evaluated in accordance with CERCLA and the NCP to serve as a basis for comparison with the other alternatives. Alternative 1 is not protective of human health and the environment because it does not address the unacceptable risk posed by exposures to contaminated soil described above in Section IV. Alternative 1 fails to meet the threshold criterion of protectiveness and will, therefore, not be considered further.

Alternative 2 would be protective of human health by preventing direct exposure (dermal contact, incidental ingestion, and inhalation) with surface and subsurface contaminated soil.

Alternative 3 would be protective of human health by preventing direct exposure (dermal contact, incidental ingestion, and inhalation) through excavation and removal of contaminated soil. In addition, due to the increased risk of flooding events from climate change, the potential for a release of PCB-contaminated soil remains likely over the years. Excavation and offsite disposal of this material permanently eliminates the potential for future releases and therefore provides the most protection to human health and the environment in the long term.

Alternatives 2 and 3 would therefore both protect human health and the environment.

2. Compliance with ARARs

Section 121(d) of CERCLA, 42 U.S.C. § 9621(d), and the NCP at 40 C.F.R. § 300.430(f)(1)(ii)(B), require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate Federal and State requirements, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law, which are collectively referred to as "ARARs," unless such ARARs are waived under Section 121(d)(4) of CERCLA, 42 U.S.C. § 9621(d)(4), and the NCP at 40 C.F.R. § 300.430(f)(1)(ii)(C).

"Applicable" requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility-siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site. Only those State standards that are identified by a State in a timely manner and that are more stringent than Federal requirements may be applicable.

"Relevant and appropriate" requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility-siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Only those State standards that are identified by

a State in a timely manner and that are more stringent than Federal requirements may be relevant and appropriate.

The key ARAR for this early action would be the chemical waste landfill requirements issued pursuant to Section 6 of TSCA at 40 C.F.R. § 761.75.

Currently, Alternative 2 does not comply with the location-specific ARAR requirements for a chemical waste landfill in TSCA (40 C.F.R. § 761.75) due to the location within the 100-year floodplain. To comply with this ARAR, it would have to be demonstrated to the satisfaction of the Regional Administrator that, as currently sited, the landfill would not present an unreasonable risk of injury to human health or the environment from PCBs, and the Regional Administrator would have to waive certain TSCA landfill requirements to approve the PCB-contaminated soil covered by the impermeable cap/barrier as a chemical waste landfill. EPA is not proposing to waive the TSCA landfill requirements and, so, Alternative 2 would not comply with the location-specific ARAR. Alternative 2 would comply with the chemical-specific ARARs because the PCB-contaminated soil would be contained below the cap with no complete exposure pathways.

Alternative 3 would comply with the ARARs because the PCB-contaminated soil would be disposed of at an offsite TSCA-approved chemical waste landfill.

3. Long Term Effectiveness and Permanence

Alternative 2 would be effective for the long-term to the extent that the cap is maintained, and ICs are enforced. Although a large flooding event could cause damage to the cap and release PCB-contaminated soil, as long as the cap remains intact, exposure to contaminants will not occur, protecting receptors from potential carcinogenic risks. Contaminated soil would remain onsite but would be controlled and contained.

Alternative 3 would be a completely effective long-term and permanent remedy because source material and any material above performance standards would be excavated and disposed of offsite at an appropriate disposal facility.

Thus, Alternatives 2 and 3 would both provide long-term effectiveness and permanence, but Alternative 3 would be more effective in that the source material would be removed and not at risk of release from a future flooding event.

4. Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 2 would not provide a reduction of toxicity, mobility, or volume through treatment. Alternative 3 would provide a reduction of toxicity, mobility, or volume through treatment if the waste characterization sampling results indicate treatment at the disposal facility is required. However, the source material would be removed and not at risk of release from a future flooding event eliminating its mobility.

5. Short-term Effectiveness

Both Alternatives 2 and 3 would pose potential short-term risks to the surrounding community which would have to be mitigated to the extent practical due to increased truck and vehicular traffic during construction activities. The increased vehicular traffic on public roads could be coordinated and scheduled to minimize impacts to the local community. Fugitive dust emissions from construction could be minimized or eliminated by applying proper engineering controls (i.e., dust suppressants, enclosures, etc.) and monitoring. Short-term risks to workers during construction activities from exposure to contaminated soil can be minimized or eliminated via use of proper personal protective equipment and monitoring.

While both Alternatives 2 and 3 would have a short-term risk associated with a potential release caused by flooding during construction, the risk would be higher with Alternative 3 due to the cap being removed to expose PCB-contaminated soil. Both alternatives would require precautions to be taken during construction to lessen the chance of a release due to flooding.

6. Implementability

Alternatives 2 and 3 would both require precautions to be taken during construction due to the potential release of PCB-contaminated soil during a flooding event. Access to the SEC property is via a dirt road that is damaged from flooding and would need to be improved to support the construction traffic. Additional road upgrades may be warranted, especially for Alternative 3 which would have increased vehicle traffic to transport the waste material to an offsite disposal facility. Alternative 2 would require the identification and assessment of permanent changes to the floodplain and the potential impacts on the stream, riparian corridor, and all associated wetlands. Alternative 3 would not make any permanent changes to the floodplain if the ground surface elevations were restored to preconstruction levels.

While Alternative 2 may be slightly easier to implement, given the proper precautions, Alternative 3 can be implemented to minimize a release. These precautions include continuous weather monitoring and working during months when flooding is less likely, engineering controls for the excavation area, excavating in small areas at a time, backfilling as soon as possible to minimize open excavations, and proper temporary storage of contaminated materials.

7. Cost

The costs for Alternatives 2 and 3 are summarized as follows:

	Alternative 2	**Alternative 3**
Estimated Capital Cost:	$1,911,798	$15,559,660
Estimated Annual O&M Cost:	$175,770	$0
Estimated Present Worth Cost:	$4,085,812	$15,559,660

Present worth cost is the total of an alternative over time in today's dollar value. The 30-year timeframe in the cost estimates is based on EPA guidance. Alternative 2 would require the State of West Virginia to pay for O&M costs past 30 years and those costs are not included in this cost

estimate which is just for comparison of the alternatives. Cost estimates are expected to be accurate within a range of +50 to -30 percent. The 30-year present worth estimate was calculated using a 5 percent discount rate. Costs for long-term monitoring and Five-Year Reviews are included in the annual Operations and Maintenance (O&M) costs above.

8. State Acceptance

The State acceptance of the Preferred Alternative will be evaluated after the public comment period ends.

9. Community Acceptance

Community acceptance of the Preferred Alternative will be evaluated after the public comment period ends. EPA will summarize significant comments submitted during the public comment period and will respond to each issue in the Responsiveness Summary of the Record of Decision.

VIII. EPA'S PREFERRED ALTERNATIVE

Based on the factors presented below, EPA's Preferred Alternative for the soil at the SEC property is **Alternative 3: Impervious Cap/Barrier Area Excavation**. The estimated cost for Alternative 3 is $15,559,660. The conceptual layout of Alternative 3 is shown on Figure 5. EPA is recommending Alternative 3 because it is protective of human health and the environment; it will comply with ARARs; it is a long-term, effective and permanent remedy; it is readily implementable; and the alternative is cost-effective.

EPA's Preferred Alternative includes the following:

Remedy Components
The components of the alternative would include the following:

1. Removal of the impervious cap/barrier

2. Excavation of all PCB-contaminated soil above performance standards

3. Disposal of excavated PCB-contaminated soil and the impervious cap/barrier at an approved offsite disposal facility

4. Backfill with clean fill, as necessary

Design Considerations
Due to the potential release of PCB-contaminated soil during a flooding event, the following mitigation strategies would be taken during the excavation work to minimize a release:

- Prior to work:
    - Evaluate upgradient watershed contributing stormwater runoff to the project area

  - Estimate stormwater flows during various storm events
  - Install perimeter erosion and stormwater controls
- During the work:
  - Continuously monitor weather for potential flash flood events
  - Excavate in small areas at a time
  - Backfill as soon as possible to minimize open excavations
  - Line and cover stockpiles with temporary covers
  - Establish a decontamination area to clean trucks and equipment before leaving the project area

Rationale for Preferred Alternative

Based on the information currently available, EPA believes the Preferred Alternative for the soil at the SEC property meets the threshold criteria and provides the best balance of tradeoffs with respect to the balancing criteria. EPA expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA § 121(b): (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost effective; (4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (5) satisfy the preference for treatment as a principal element.

IX. COMMUNITY PARTICIPATION

EPA relies on public input so that the remedy selected for each Superfund site meets the needs and concerns of the local community.

Public Comment Period—To ensure that the community's concerns are being addressed, a public comment period will open March 13, 2023, and close April 12, 2023. During the public comment period, the public is encouraged to submit to EPA any comments on the Proposed Plan.

Public Meeting—A public meeting will be held to discuss the Proposed Plan on March 21, 2023, from 6:00 p.m. to 8:00 p.m. The public meeting will be held at Minden Community Center/New Beginning Apostolic Church, 179 McKinney Road, Minden, WV 25901.

During the comment period, you are invited to participate in any of the following ways: (1) by letter to Aaron Mroz or Lisa Trakis at the addresses listed to the right; (2) by email to: Mroz.Aaron@epa.gov or Trakis.Lisa@epa.gov; and/or (3) in person at the public meeting. If you have any questions about the public meeting, contact Aaron Mroz or Lisa Trakis at the address or telephone numbers listed.

Written comments, questions about the Proposed Plan or public meeting, and requests for information can be sent to either representative below:

Aaron Mroz (3SD22)
Remedial Project Manager
U.S. EPA Region III
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103
(215) 814-3172
Mroz.Aaron@epa.gov

Lisa Trakis (3RA22)
Community Involvement Coordinator
U.S. EPA Region III
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103
(215) 814-5433
Trakis.Lisa@epa.gov

It is important to note that although EPA has proposed its Preferred Alternative, the remedy has not yet been selected for the Site. All relevant comments received will be considered and addressed by EPA before the remedy is selected for the soils at the SEC property.

Detailed information on the material discussed herein may be found in the Administrative Record for the Site, which includes the information from the ongoing RI for the Site, which includes the December 2020 Phase 1 Remedial Activities Data Summary Technical Memorandum and the August 2022 Shaffer Equipment Company Property HHRA, and the January 2023 FFS Report, and other information used by EPA in the decision-making process. EPA encourages the public to review the Administrative Record in order to gain a more comprehensive understanding of the Site and the Superfund activities that have taken place there. Copies of the Administrative Record are available for review at https://semspub.epa.gov/src/collection/03/AR67298, or at the following locations:

Oak Hill Public Library
611 Main Street
Oak Hill, WV 25901
Hours: Call (304) 469-9890

EPA Administrative Records Room
Attention: Administrative Records Coordinator
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA
(215) 814-2469
Hours: Monday through Friday, 8:30am to 4:00pm
By appointment only

Following the conclusion of the public comment period on this Proposed Plan, a Responsiveness Summary will be prepared. The Responsiveness Summary will summarize and respond to substantive comments on EPA's Preferred Alternative. EPA will then prepare a formal decision document, the ROD, which summarizes the decision process and documents the selected remedy for the soils at the SEC property of the Site. The ROD will include the Responsiveness Summary. Copies of the ROD will be available for public review in the designated repositories, described above.

Figure 1: Site Location

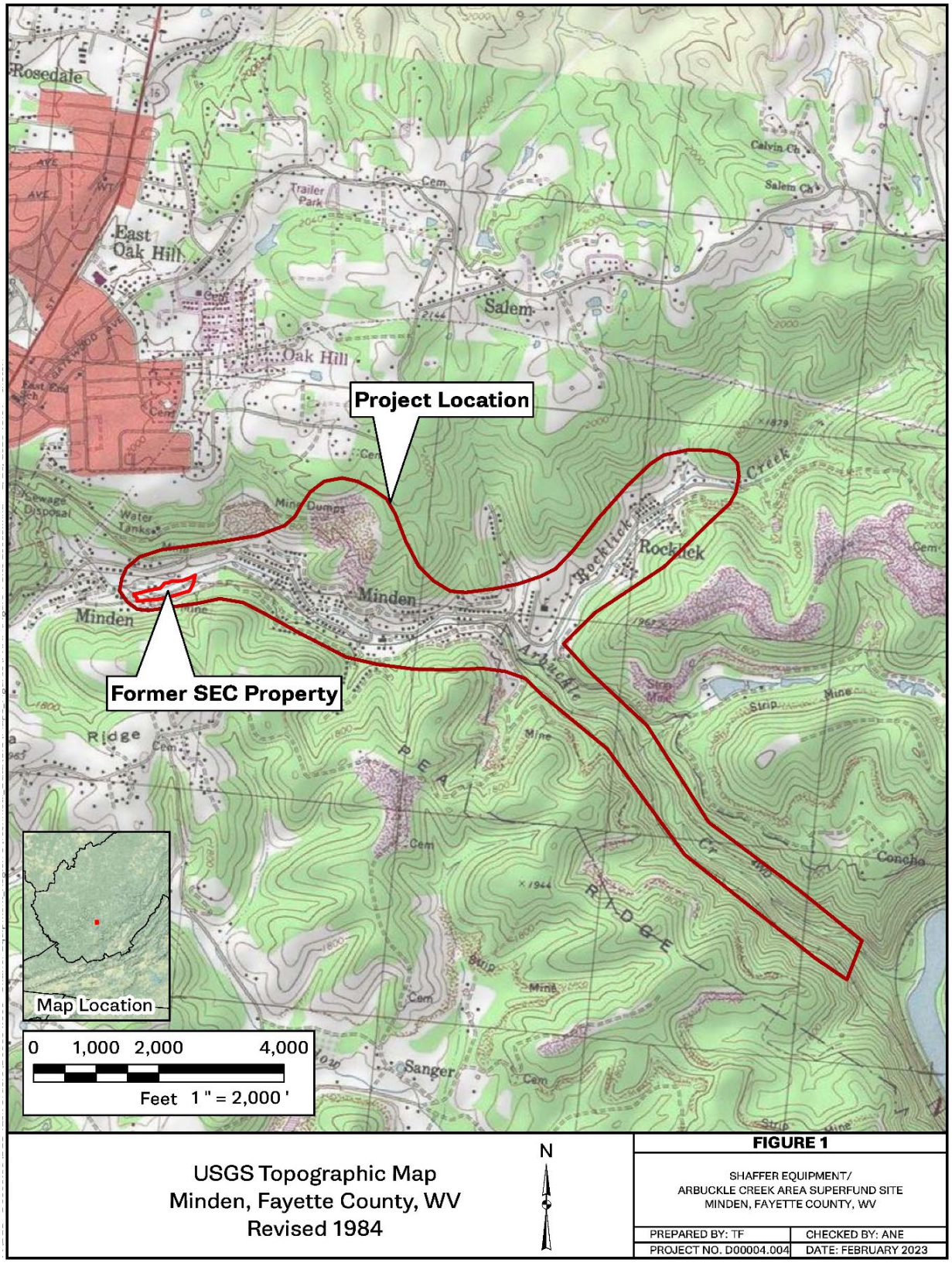

Figure 2: Project Areas

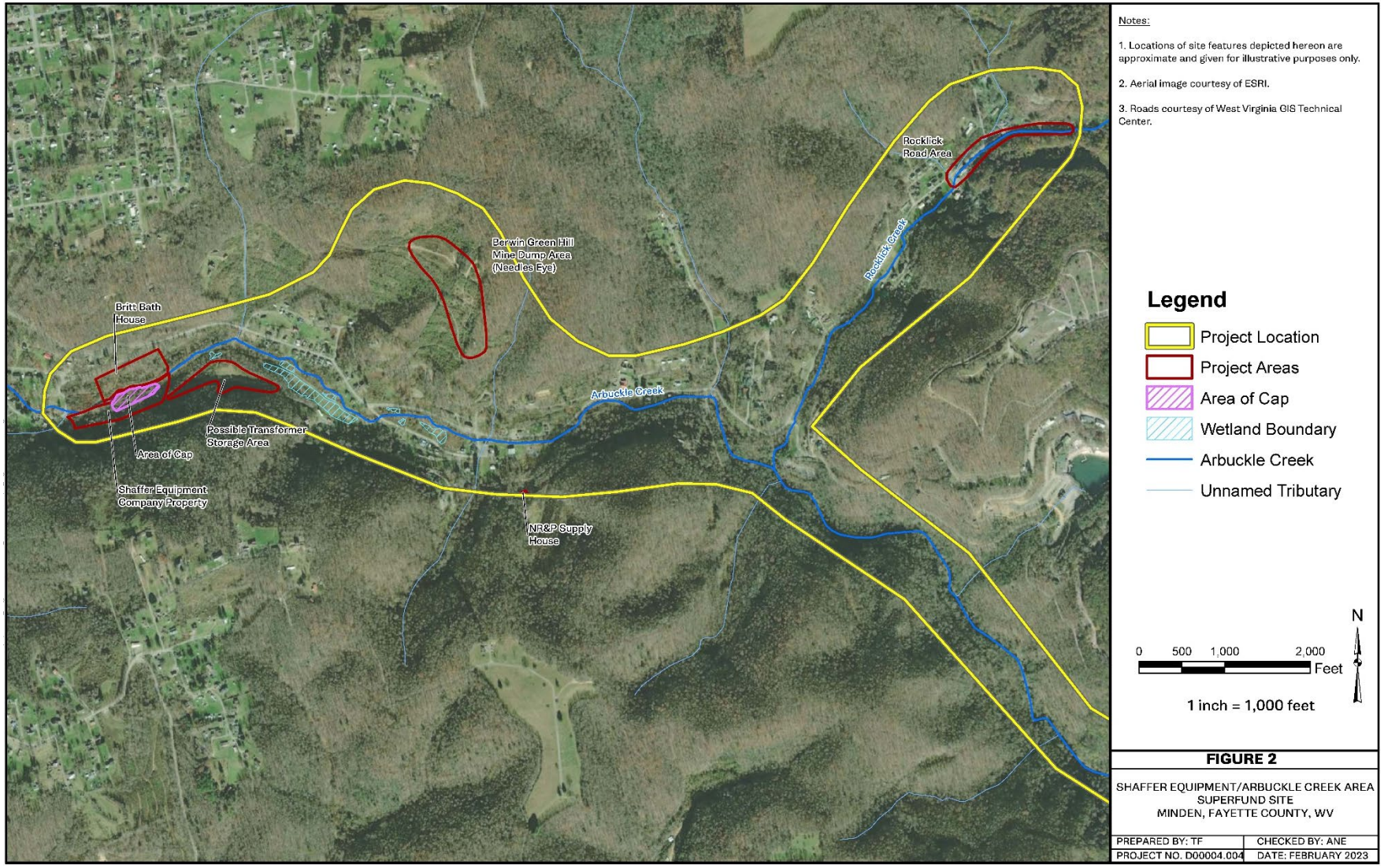

Figure 3: SEC Property

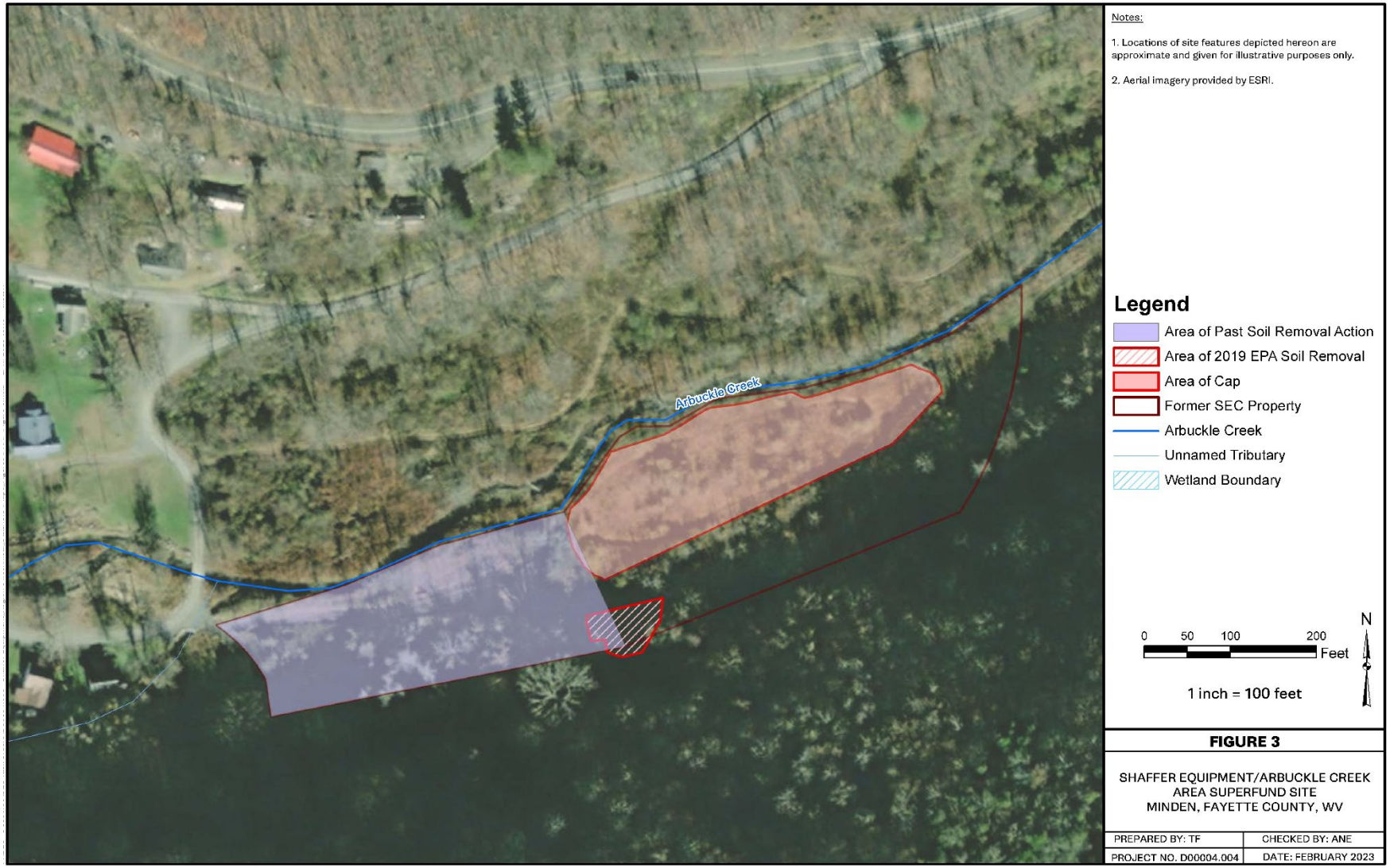

Figure 4: Floodplain

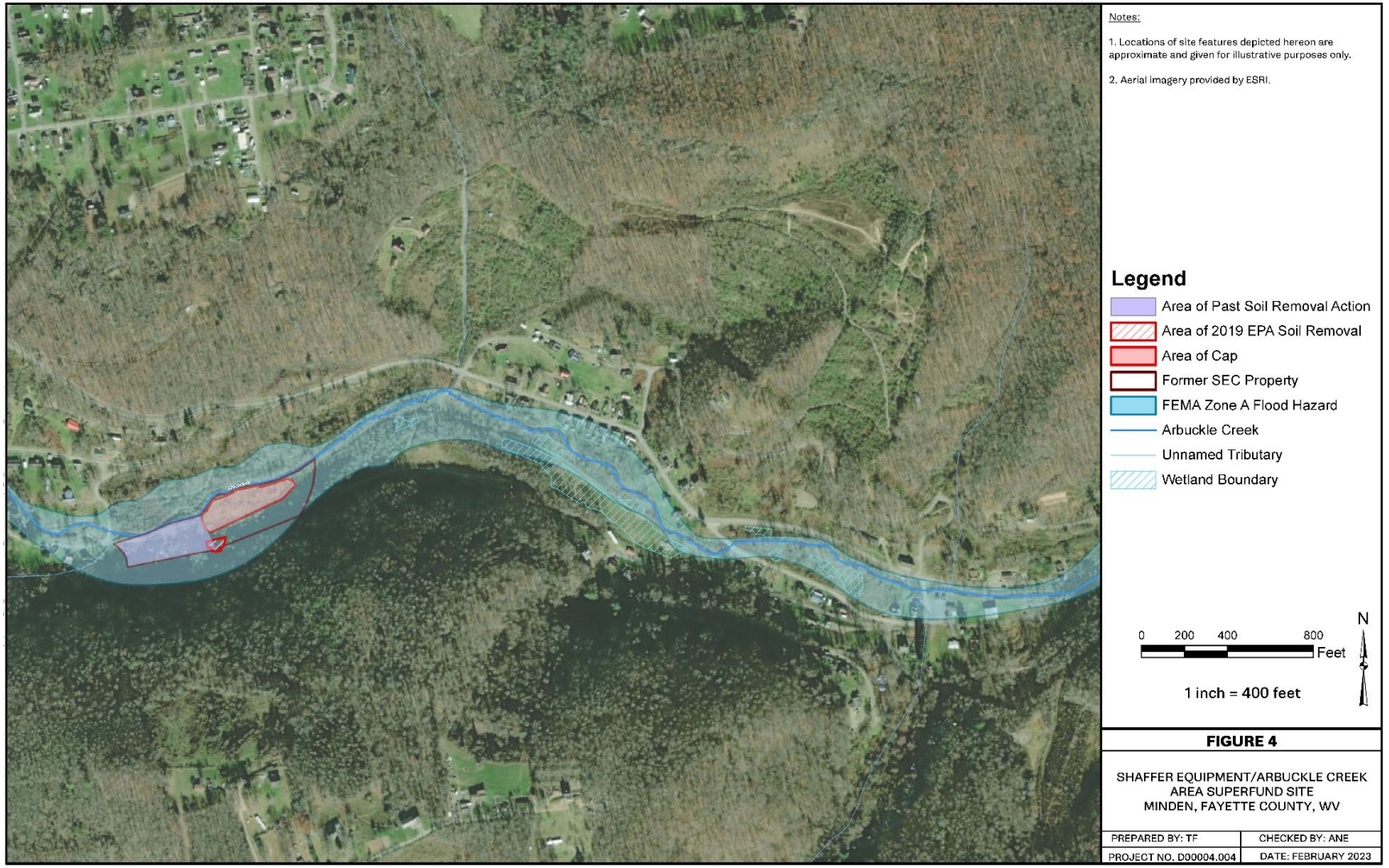

Figure 5: Preferred Alternative